NILES®

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INSTALLATION & OPERATION GUIDE

TS-1

IntelliPad® Ci Touch Screen Keypad

NILES®

BLENDING HIGH FIDELITY AND ARCHITECTURE®

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INTRODUCTION

The Niles TS-1 Touch Screen Keypad is designed as an elegant alternative to the IntelliPad® Ci Keypads used with Niles Multi-Zone Systems. The TS-1 has an easy-to-read, wall-mounted user interface and is an ideal choice for home areas where the multi-zone system will be used the most (e.g., kitchen, master bedroom, family room, etc.). This Installation Guide covers the physical installation, operation, and manual programming of the TS-1. For detailed system connection information, refer to the Niles Multi-Zone Control System Installation and Operation Guide for the ZR-4630, ZR-8630AV, or A4.6Ci system.

FEATURES AND BENEFITS

- Plug-and-Play Operation – Auto-configuration provides for immediate operation upon connection with no additional programming
- Real-time System Status Information – Displays system status including volume and radio station information
- High-Resolution LCD Screen – Makes the TS-1 easy to see, understand, and operate
- Favorite Function Keys – Provides one-touch access to favorite programming like radio stations, satellite or cable TV channels
- Built-in Plasma-Proof IR Sensor – Gives users system operation from hand-held IR remote controls
- Back-Lighted Hard Keys – Facilitates quick access to frequently used system functions
- Pre-defined Source Component Control Screens – Accommodates all of today's popular source components
- Manual System Programming – Provides system customization from the touch screen
- Keypad Connections Use Cat-5 Wiring and Terminate in RJ-45 Connectors – For ease of installation and system pre-wiring
- Firmware Updates in the Field – Enables feature updates as they become available
- Optional New-Construction Installation Bracket (FG01060)

PARTS GUIDE

The TS-1 package includes the following parts:

- One (1) TS-1 Touch Screen Keypad
- One (1) TS-1 Faceplate
- One (1) Wall Cutout Template
- One (1) Operation Guide
- One (1) Warranty Card

After unpacking and before installation, the installer should carefully inspect the contents. If any damage is discovered due to shipping, the installer should contact Niles Audio for assistance (see back cover or Warranty Card for contact information). Also, keep all packing materials in case the product ever needs to be returned to the factory.

DESCRIPTION/OPERATION OVERVIEW

This section describes the TS-1's components and how each of the keys operates.

TS-1 Front Description

The TS-1 front contains two types of keys, as shown in Figure 1 on the next page: *Hard Keys* and *Touch Keys* that appear on the back-lit *Touch Screen*. The *Hard Keys* are traditional hard-formed keys and are used to control the most common functions (e.g., volume, see page 8). The *Touch Keys* are software-driven and will change functionality (and labels) as you touch them (see page 9).

In addition, an *IR Sensor* and a *PROGRAM Jack* (for installers) are hidden under the faceplate. The *IR Sensor* communicates with a (optional) Niles R-4 or R-8 Remote Control so you can conveniently operate the TS-1 at a distance. The *PROGRAM Jack* allows an installer to set custom features on the TS-1 when using a connected laptop PC and our TS-1 programming software.

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DESCRIPTION/OPERATION OVERVIEW

TS-1 Front Description (continued)

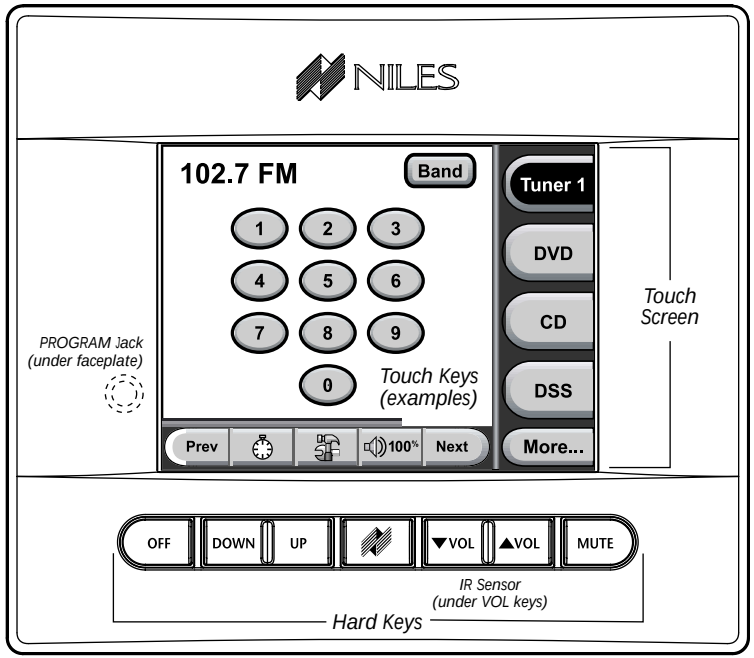


Figure 1
TS-1 front (shown with faceplate installed).

TS-1 Rear Description

The TS-1 rear has two CAT-5 jacks for connection to a Niles Multi-Zone System (i.e., ZR-4630, ZR-8630AV, or A4.6Ci) and an (optional) external IR sensor, as shown in Figure 2.

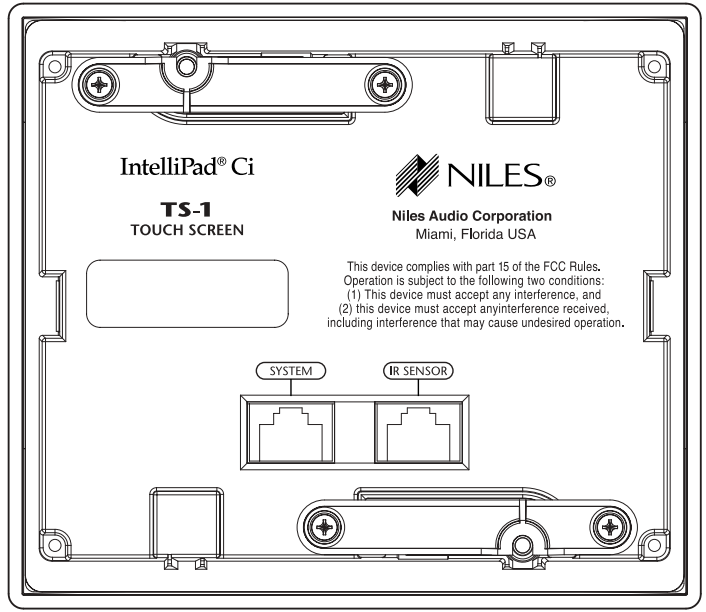

IntelliPad® Ci
TS-1
TOUCH SCREEN
NILES®
Niles Audio Corporation
Miami, Florida USA
This device complies with part 15 of the FCC Rules.
Operation is subject to the following two conditions:
(1) This device must accept any interference, and
(2) this device must accept anyinterference received,
including interference that may cause undesired operation.
SYSTEM
IR SENSOR

Figure 2
TS-1 rear.

DESCRIPTION/OPERATION OVERVIEW (continued)

TS-1 Operation Overview

Hard Key Operation

Press OFF once to turn off the zone you are in. After 30 seconds, the touch screen will go blank and the *Hard Key* backlights will turn off. To turn off all zones, press and hold OFF for at least 3 seconds until you see the *Hard Keys* flash three times.

After selecting a *Master Key*, press DOWN or UP to select a previous or next function such as: preset station on a tuner, chapter on a DVD or LD, track on a CD or media server, or channel on DSS. Also see the *TS-1 Programming Worksheets* for exact programming details.

Press (Zone On) once to turn on the zone you are in and all *Hard Keys* will backlight blue. Also, depending on programming, the *Touch Screen* will highlight either a specified or last-selected *Master Key* and show its first control screen.

Pressing and holding (Zone On) for more than 3 seconds will turn on the zone you are in and turn on all other zones, as set by the ALL ON/PAGE switch (see the appropriate Niles Multi-Zone Control System Installation and Operation Guide). In newly-activated zones, the *Touch Screen* will be blank and only (Zone On) will be backlit blue.

After selecting a *Master Key*, press ▼VOL or ▲VOL to set the audio level. The Zone Volume indicator (see page 12) will show the current volume setting (not available on the A4.6Ci Multi-Zone Control System).

Press MUTE once to mute the audio in the zone you are in. The key will backlight red and the (Zone Volume) indicator will change to to indicate muting. To unmute audio, press MUTE once again. It will again backlight blue and Zone Volume will display .

NOTE: The actual percentage displayed will be the current volume setting.

Touch Key Organization

The TS-1 *Touch Screen* is organized into three different groups of *Touch Keys*: *Navigation Keys*, *Master Keys*, and *Function Keys*, as shown in Figure 3.

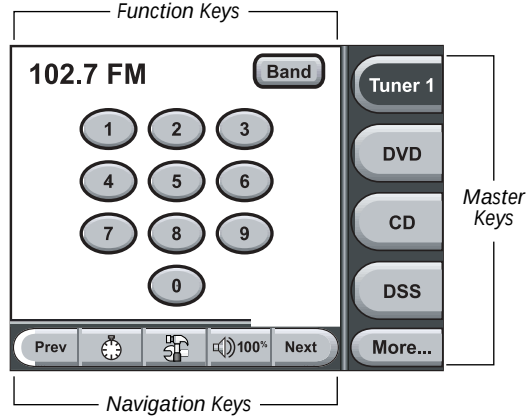


Figure 3
Organization of an example TS-1 Touch Screen.

NOTE: In any zone, the TS-1 will go into "Standby" after 30 seconds of inactivity and the Touch Screen will become blank. To activate it, simply touch any part of the Touch Screen or a Hard Key.

continued on next page...

DESCRIPTION/OPERATION OVERVIEW

TS-1 Operation Overview (continued)

Navigation Key Operation

Touch Prev or Next once to view the previous or next *Control Screen* for a selected *Master Key*. Touch either key once again to view a different *Control Screen*. The program will loop back to the original *Control Screen* when all have been displayed, as shown in Figure 4 below.

NOTE: Not all source components will have the same number of Control Screens. See the "TS-1 Programming Worksheets" for details.

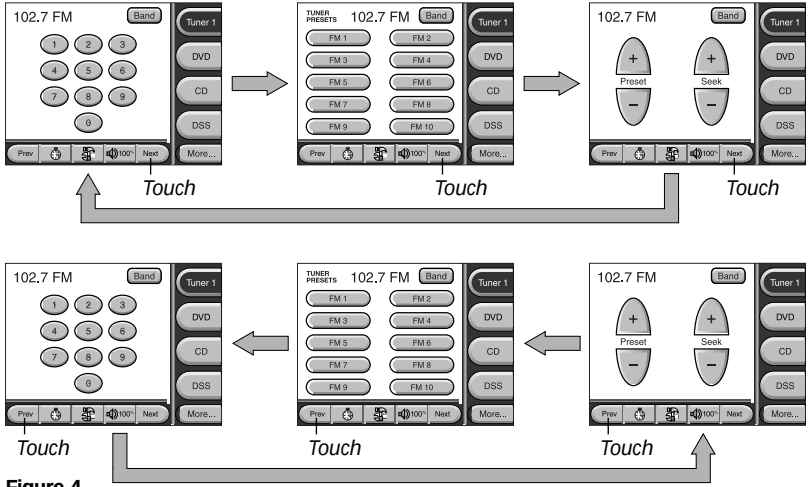


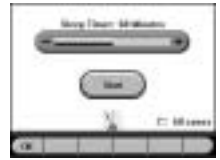
Figure 4
Navigating TS-1 *Control Screens* for an example Niles ZR Tuner.

Use (Sleep Timer) when you want the TS-1 to automatically turn off a zone after a preset length of time.

To activate *Sleep Timer*:

1. Touch (Sleep Timer) once to view the *Sleep Timer* screen, as shown in Figure 5.

Figure 5
The *Sleep Timer* screen.



2. Touch – or + one or more times to decrease or increase the timer from 5 to 120 minutes.
3. (Optional) To include all zones in the *Sleep Timer*, touch the All zones check box.
4. Touch Start once to start the timer. The metronome will activate.
5. Touch OK to save the settings. The minute hand on the Sleep Timer key will appear to indicate the timer is set.

To de-activate *Sleep Timer*:

1. Touch (Sleep Timer) once to view the *Sleep Timer* screen.
2. Touch Stop once.
3. Touch OK to save the settings.

continued on next page...

DESCRIPTION/OPERATION OVERVIEW

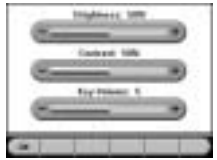
TS-1 Operation Overview

Navigation Key Operation (continued)

Use (Setting Options) to adjust attributes of the Touch Screen such as: *Brightness*, *Contrast*, or *Key Volume* (when a key is touched).

1. Touch (Setting Options) once to view the *Setting Options* screen, as shown in Figure 6.

Figure 6
The *Setting Options* screen.



2. Touch – or + one or more times to decrease or increase the desired attribute. For *Brightness* or *Contrast*, the adjustment level ranges from 0 to 100 %. For *Key Volume*, the adjustment level ranges from 0 to 10.
3. Touch OK to save the settings.

The (Zone Volume) indicator displays the current volume level (of the zone you are in) as a percentage, with 100 % being maximum. The display will update (not available on the A4.6Ci Multi-Zone Control System) as you use ▼VOL or ▲VOL to set a desired audio level.

NOTE: The volume indicator does not display until volume is changed for the first time after the zone is on.

Master Key Operation

When using a ZR-8630AV or A4.6Ci Multi-Zone System, as many as eight *Master Keys* will be displayed with up to four keys shown at a time. When using the ZR-4630 Multi-Zone System, as many as four *Master Keys* will be displayed.

- For a ZR-8630AV or A4.6Ci Multi-Zone System, touch More (If displayed) once to view the other set of keys.
- Touch More once more to return to the original set.

Touching a *Master Key* turns on the zone and highlights the key to indicate the source component is now active (see Tuner 1 example on left). At the same time, the first *Control Screen* for the selection will be displayed. See *Navigation Key Operation* (starting on page 10) to learn how to view other *Control Screens*.

Pressing and holding a *Master Key* for more than 3 seconds will turn on the zone you are in and turn on all other zones, as set by the ALL ON/PAGE switches (see the appropriate Niles Multi-Zone Control System Installation and Operation Guide). In newly-activated zones, the *Touch Screen* will be blank and only (Zone On) will be backlit blue.

DESCRIPTION/OPERATION OVERVIEW

TS-1 Operation Overview (continued)

Function Key Operation

Each source component has a unique number of functions keys assigned for its control. Depending on the selected audio or video component and programming, up to seven control screens may be available for your use.

For example, Figure 4 on page 10 shows three *Control Screens* for a Niles ZR Tuner: *FM Favorites*, *Tuner Direct Access*, and *Tuner Control*. You can navigate to other screens by simply touching Prev or Next one or more times.

We've designed all *Touch Keys* to look and act like the controls found on a component and its remote control. Simply touch a desired key and the function will activate.

Other control screens, such as CD and DVD players, will also include disc transport keys (e.g., Play, Stop, Pause, etc.). A DSS component will have navigation keys and keys for accessing the electronic program guide. For detailed technical information on all touch screens for all source components, refer to the *TS-1 Programming Worksheets* (see page 30).

Understanding Feedback Messages

The TS-1 includes several *Feedback Messages* that appear under certain conditions to help guide you when operating a desired function, as shown in Figure 7. Some serve as indicators while others serve to alert you to a condition.

Feedback Message	Indication
	• No light = Zone is off. • Blue light (steady), *Touch Screen* off = Zone is on. • Blue light (steady), *Touch Screen* on, *Master Key* highlighted = Zone is on. • Blue light (steady), *Touch Screen* on, *Master Key* not highlighted = Zone is off. • Blue light (slow flashing) = Zone is being paged. • Blue light (flickers) = TS-1 is receiving IR commands from R-8 or R-4 remote control.
	• Red Light = Zone volume is muted.
	• Zone volume is muted.
	• Sleep timer is on.
The system is busy.	• System is being used by another person. Please try again.
This source is currently selected in another zone (n/a for A4.6Ci System).	• When displayed, use discretion before changing a source's functions (e.g.,CD track). Doing so will disrupt someone else's viewing and/or listening enjoyment in another zone.
The currently selected source is not programmed for display or control on this Touch Pad.	• Although the TS-1 does not display or allow control of the selected source in this zone, you still can enjoy viewing and/or listening to the source's output.

Figure 7
TS-1 *Feedback Messages* and their indications.

DESCRIPTION/OPERATION OVERVIEW (continued)

Cleaning the TS-1

The TS-1 includes a *Cleaning Mode* program so you can temporarily turn off the *Touch Screen* to clean dust and grime. For normal cleaning, use a dry, soft cloth to wipe off the dirt. To remove excessive fingerprints or other contamination, first moisten the cloth with water or a window-cleaning solution (e.g., Windex®), wring out the excessive liquid, and then wipe the TS-1.

NOTE: Do not use any other cleaning products. Do not spray any liquid directly onto the TS-1. Doing so may damage the unit.

1. Press OFF to turn off the zone.
2. Press and hold MUTE until it starts to flash slowly. At this point, you have 15 seconds to clean the TS-1.
3. When MUTE starts flashing rapidly, the program will automatically exit the *Cleaning Mode* in 5 seconds.
4. If you need more time, press MUTE once more while it's flashing to reset the timer. Repeat this step as needed until all your cleaning is done.

SYSTEM CONFIGURATIONS

Application Considerations

The Niles TS-1 Touch Screen Keypad is designed as an alternative to the IntelliPad® Ci Keypads (i.e., Solo, Solo IR, Select, Select IR, Numeric, or Transport). Either or both can be used in a Niles Multi-Zone System, such as the ZR-4630, ZR-8630AV, or A4.6Ci. Using standard CAT-5 cables, interconnection is straightforward and will only require an optional TSP-1 Power Module when more than three TS-1s are connected to a single multi-zone receiver or preamplifier (see Figure 10 on page 19). To help plan a system, we've included the following four applications for your review.

Connecting TS-1s in a Basic System

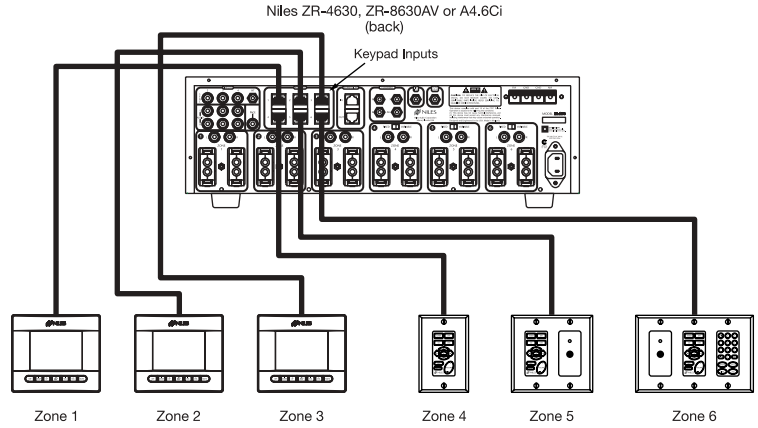


Figure 8
Three TS-1s are shown connected in a basic multi-zone system.

SYSTEM CONFIGURATIONS (continued)

Using an IntelliPad® Ci Expander™ in a Single Zone

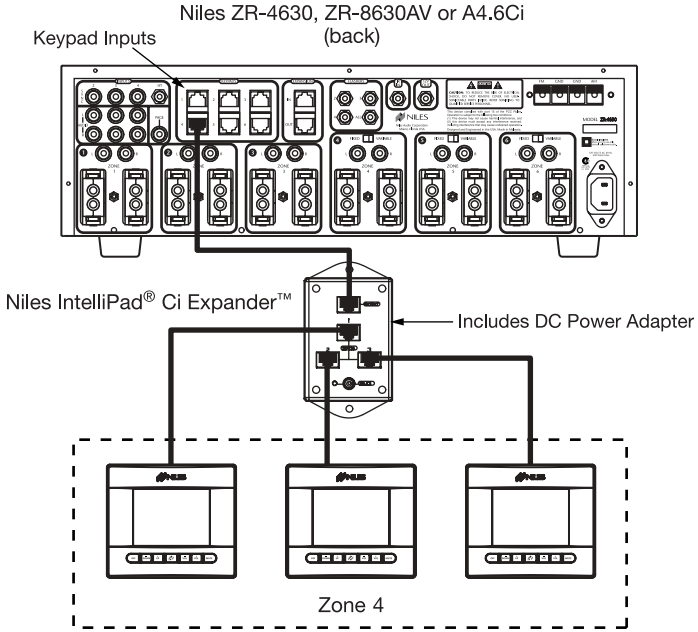


Figure 9
An IntelliPad Ci Expander is used to connect up to three TS-1s in a single zone.

Using a TSP-1 Power Module to Connect Additional TS-1s

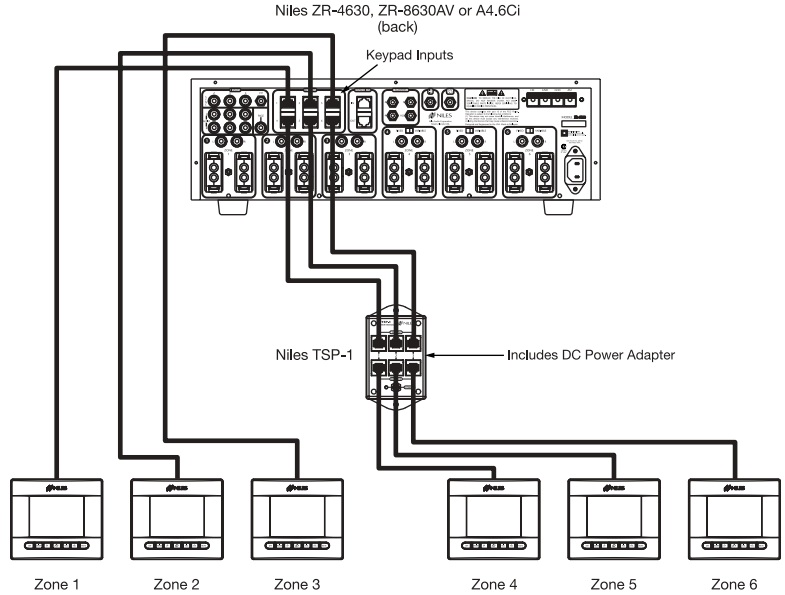


Figure 10
A TSP-1 Power Module supplies power to additional TS-1s in a basic multi-zone system.

SYSTEM CONFIGURATIONS (continued)

Adding an External IR Sensor

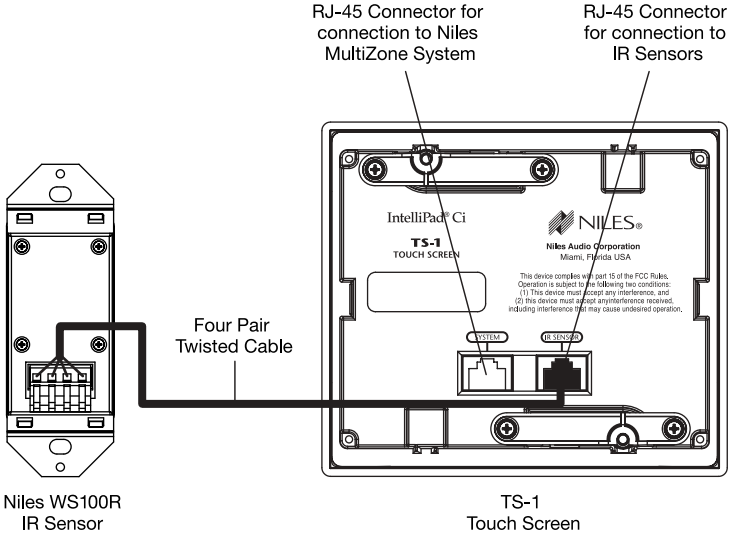

RJ-45 Connector for connection to Niles MultiZone System
RJ-45 Connector for connection to IR Sensors
IntelliPad® Ci
TS-1
TOUCH SCREEN
NILES®
Niles Audio Corporation
Miami, Florida USA
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device must accept any interference, and (2) this device must accept anyinterference received, including interference that may cause undesired operation.
SYSTEM
IR SENSOR
Four Pair Twisted Cable
Niles WS100R IR Sensor
TS-1 Touch Screen

Figure 11
An (optional) external IR Sensor is shown connected to a TS-1 using four-pair twisted (CAT-5) cable.

INSTALLATION CONSIDERATIONS

Tools and Precautions

We recommend using the following tools to install a TS-1 Keypad:

- Electric drill with 1/4" and 1/2" drill bits, and a 1" flat drill bit (for drilling through studs)
- Keyhole or drywall saw
- Stiff wire, fish tape, or glow rods (for routing cables)
- Philips screwdriver set
- Cable ties
- Pencil
- Level
- Rubber gloves and protective eyewear

Before starting the installation, please observe the following precautions:

- Turn off all system power before making any connections.
- Always wear protective eyewear when using tools.
- Make sure hands are clean before installation.
- Wear gloves when working with fiberglass insulation.

Where to Mount a TS-1 Keypad

Convenient mounting locations for the TS-1 Keypad include:

- Near entry ways or exits
- Near a desk
- At a bedside
- Close to a telephone
- Near other wall controls

continued on next page...

INSTALLATION CONSIDERATIONS

Where to Mount a TS-1 Keypad (continued)

Avoid installing the TS-1 Touch Screen Keypad in the following areas, which can degrade operation or accessibility:

- In direct sunlight or strong ultraviolet light
- Over heat-generating or moist areas
- Behind an opened door
- Next to a thermostat (since the TS-1 generates heat that can affect thermostat settings)

***CAUTION**: Do not install the TS-1 into electrical boxes with 110-volt devices.*

Some states or municipalities allow devices such as the TS-1 Keypad to be installed into the same electrical box with 110-volt devices, provided a "low-voltage partition" is used between the devices.

We do not recommend this action. If you must locate a TS-1 Keypad near electrical devices, install it in a separate metal electrical box, ground the box to the electrical system ground, and route the speaker wires several feet away from the electrical wiring.

Recommended Mounting Height

The TS-1 Keypad is designed with a viewing angle of 42°, as shown in Figure 12 on the next page.

NOTE: The recommended mounting height depends on the user's height and distance from the TS-1.

Before mounting, determine the average height of all users to find a mounting height that will work best. As an example, for a 6' person standing about 2' away, mount the TS-1 at 60" above the floor (see Figure 12). For a 5' person, use a mounting height of 48".

INTELLIPAD® CI TOUCH SCREEN KEYPAD

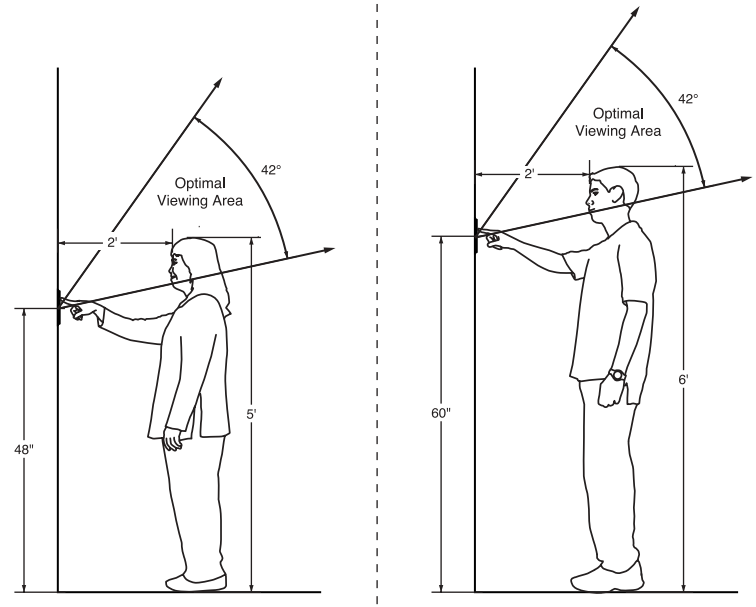


Figure 12
TS-1 mounting heights and optimal viewing angles for people of different heights.

INSTALLATION CONSIDERATIONS (continued)

Installing the TS-1 in Existing Construction

1. At a proposed site, use the enclosed wall template to mark the outline of the TS-1. Check for hidden obstructions by drilling a small hole in the drywall at the center of the outline. If you feel any obstructions while drilling, stop immediately and select another site.
2. Bend a piece of stiff wire (e.g., coat hanger) about 6 inches from the end at a 90-degree angle. Insert the bent end into the hole and rotate the wire to check if there are any other obstructions. If you hit anything, patch the hole with drywall compound and choose another site.
3. Connect the CAT-5 cable(s) to the TS-1's rear jack(s) (see *Connecting the TS-1* on page 27).

   IMPORTANT: Test cable prior to connection, miswired and damaged cables can cause damage to the TS-1.
4. The TS-1 is equipped with two Mounting Clamps for easy installation. Hold the TS-1 firmly in the opening and use a Phillips screwdriver to turn each mounting-clamp screw to the right until the TS-1 feels fastened, as shown in Figure 13.

   NOTE: Do not overtighten the mounting-clamp screws.

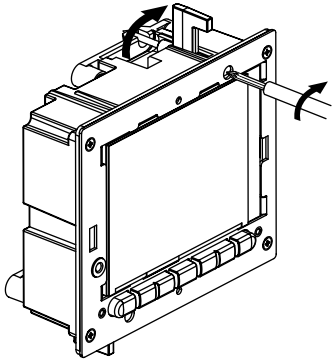


Figure 13
Using the TS-1's built-in mounting clamps.

Installing the TS-1 in New Construction

For a new construction site, use our optional New Construction Bracket (FG01060) to provide a support for mounting the TS-1 on new drywall, as shown in Figure 14.

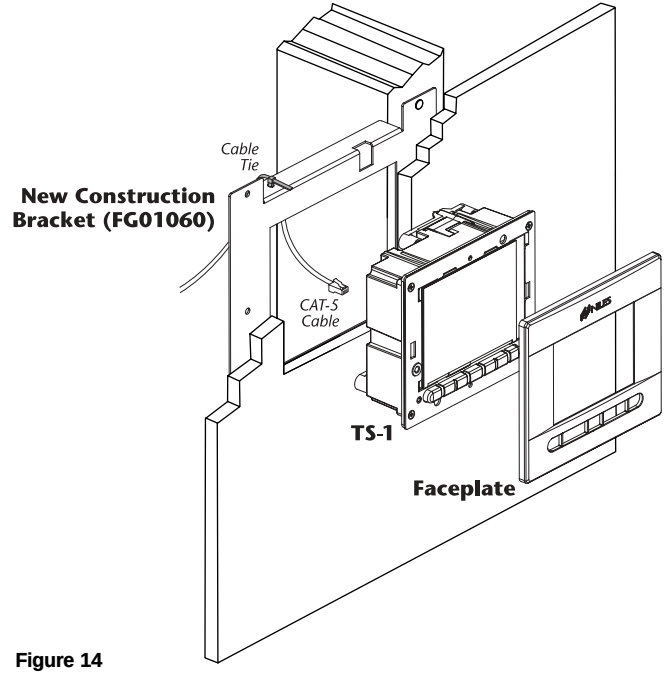


Figure 14
Using the optional New Construction Bracket (FG01060) to install a TS-1 in new construction.

continued on next page...

INSTALLATION CONSIDERATIONS

Installing the TS-1 in New Construction (continued)

1. At a proposed site, install a New Construction Bracket to studs with nails or metal screws.
2. Use a cable tie to attach the CAT-5 cable(s) to the bracket at about 6" from the end(s) (see Figure 14 on the previous page).
3. After drywall has been installed, use a drywall saw to cut out the opening (i.e., 4" h x 4.75" w) for the TS-1.
4. Connect the CAT-5 cable(s) to the TS-1's rear jack(s) (see *Connecting the TS-1* on page 27).

   IMPORTANT: Test cable prior to connection, miswired and damaged cables can cause damage to the TS-1.
5. The TS-1 is equipped with two Mounting Clamps for easy installation. Hold the TS-1 firmly in the opening and use a Phillips screwdriver to turn each mounting-clamp screw to the right until the TS-1 feels fastened, as shown in Figure 13 on page 24.

   NOTE: Do not overtighten the mounting-clamp screws.

CONNECTING THE TS-1

Wiring Considerations

There are three distinct ways you can run CAT-5 cables between components in the system.

Attic/Basement Run

Drill a hole through the stud that caps the wall. Then run the cable from the attic or basement and, using a fish tape, pull it up or down through the wall to the TS-1 opening.

Baseboard Run

Run the CAT-5 cable along or behind baseboards and then through the wall at the floor (below the TS-1) and up to the opening.

Channel Drywall Run

Route out a shallow horizontal groove directly in the wallboard and lay the CAT-5 cable in the channel. Then thread the cable behind the drywall between the studs to the TS-1. After the installation is complete, patch the channels and any openings with a drywall compound.

TS-1 Connections

Each TS-1 has two CAT-5 jacks on its rear panel, as shown in Figure 2 on page 7.

- Using a CAT-5 cable, connect SYSTEM as a home run to the appropriate zone jack on the Niles Multi-Zone System. For wiring consistency, follow the color codes shown in Figure 15. (Please refer to IMPORTANT warning on pages 24, 26).

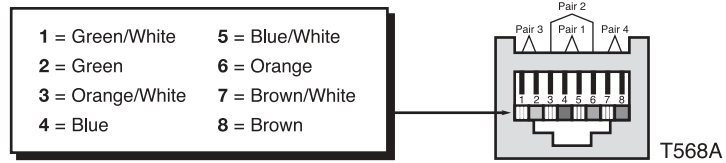


Figure 15
Color codes for RJ-45 connector.

continued on next page...

CONNECTING THE TS-1

TS-1 Connections (continued)

- Connect IR SENSOR to an (optional) external IR Sensor, as shown in Figure 16 below or Figure 17 on the next page.

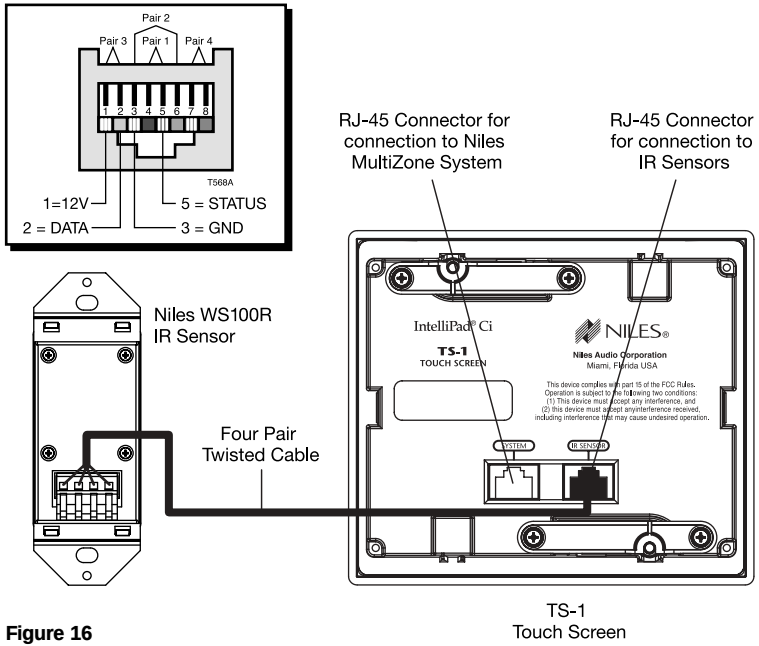


Figure 16
Connecting an (optional) WS100R IR Sensor to the TS-1 Keypad.

NOTE: An IR Sensor is required when the built-in TS-1 IR Sensor is not located in an ideal location in a zone, or when pass-through IR commands (instead of Niles system commands) are needed to control a source component.

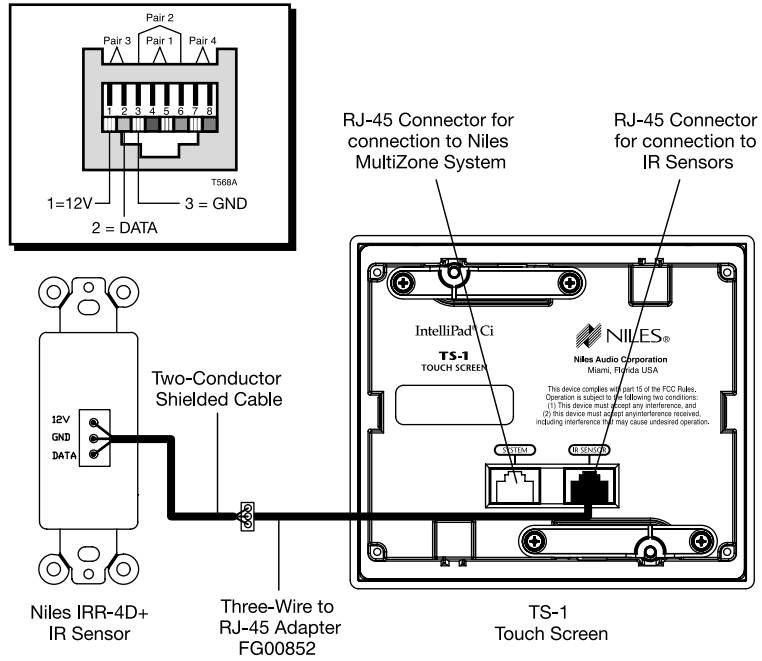


Figure 17
Connecting an (optional) IRR-4D+ IR Sensor to the TS-1 Keypad.

MANUALLY PROGRAMMING THE TS-1

The TS-1 can be programmed manually by using a built-in utility program. It provides a series of control screen templates containing source-component function keys for audio and video sources which can be modified and customized by the installer.

Within the program, the installer can customize labels for *Master Keys* and *Function Keys* or hide them from view via the *Edit Configuration* function. In addition, the installer can automatically configure the TS-1 by selecting the *Auto Configure* function.

NOTE: All Hard Keys except ***(Zone On****) will be disabled during Manual Programming.*

Documenting Programming Worksheets

Before editing a configuration, we recommended documenting the programming on copies of the *TS-1 Programming Worksheets* for the system and component screen sets. Figures 18 through 21 (on pages 30 to 33) show examples of how to fill out the information step-by-step for each type of worksheet. (You can download the worksheets at www.nilesaudio.com).

TS-1 SYSTEM PROGRAMMING WORKSHEET

NILES®

1 JOB TITLE	2 DATE
Mr. Smith	9-30-2003
3 SYSTEM DESIGNER	**4 SHOW SETTINGS OPTION**
Joe Installer	☑ YES or ❑ NO

Figure 18

Steps 1 through 4 of this TS-1 System Programming Worksheet show example information filled in for Job Title, Date, System Designer, and the Show Settings Option.

5 MASTER KEY LABELS AND SOURCE COMPONENTS

MASTER KEY	LABEL	SOURCE COMPONENT	
1	Tuner	BRAND Niles	MODEL ZR-4630
2	DVD	BRAND Sony	MODEL DVP-NC665P
3	CD	BRAND Sony	MODEL CDP-CX455
4	DSS	BRAND Sony	MODEL SAT-HD200
5		BRAND	MODEL
6		BRAND	MODEL
7		BRAND	MODEL
8		BRAND	MODEL

6 ZONE ON COMMAND ASSIGNMENT (CHOOSE ONE)

❑ MASTER KEY 1	❑ MASTER KEY 4	❑ MASTER KEY 7
❑ MASTER KEY 2	❑ MASTER KEY 5	❑ MASTER KEY 8
❑ MASTER KEY 3	❑ MASTER KEY 6	☑ LAST SELECTED MASTER KEY

Figure 19

Steps 5 and 6 of this TS-1 System Programming Worksheet show example information filled in for Master Key Labels, Source Components, and the Zone On Command Assignment.

continued on next page...

MANUALLY PROGRAMMING THE TS-1

Documenting Programming Worksheets (continued)

TS-1 MASTER KEY PROGRAMMING WORKSHEET
DVD SCREEN SET

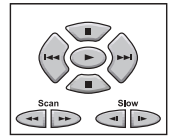
NILES®

1 JOB TITLE	2 DATE
Mr. Smith	9-30-2003
3 SYSTEM DESIGNER	**4 MASTER KEY NUMBER AND LABEL**
Joe Installer	MASTER KEY #: 2 — DVD

Figure 20

Steps 1 through 4 of this Master Key Programming Worksheet for the DVD Screen Set show example information filled in for Job Title, Date, System Designer, and Master Key Number and Label.

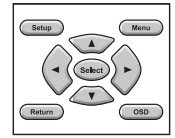
DVD SCREEN 1



Function Key	Show Key	Label	Niles Command
Play	☑		Play
Stop	☑		Stop
Pause	☑		Pause
Next Track	☑		Surf +
Right Track	☑		Surf -
Scan >>	☑		FF
Scan <<	☑		Rew
Slow >	☑		FM
Slow <	☑		AM

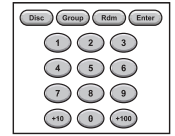
Function Key Text		
Scan	☑	Search
Disc Skip	☑	

DVD SCREEN 2



Function Key	Show Key	Label	Niles Command
Setup	☑		M
Menu	☑		G
Up	☑		Up
Select	☑	Enter	*
Down	☑		Down
Left	☑		Left
Right	☑		Right
Return	☐		E
OSD	☑	Display	P

DVD SCREEN 3



Function Key	Show Key	Label	Niles Command
Disc	☑		Disc
Group	☑		Group
Rdm	☑		Random
Enter	☑		*
1	☑		1
2	☑		2
3	☑		3
4	☑		4
5	☑		5
6	☑		6
7	☑		7
8	☑		8
9	☑		9
0	☑		0
10	☑		-
+100	☑		+

Figure 21

This portion of the Master Key Programming Worksheet for the DVD Screen Set shows example information (such as Show Key settings and Label renaming) filled in for the three DVD screens.

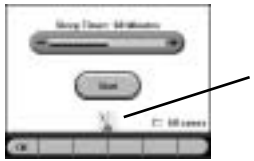
Master Key Programming Worksheets for other components may have as many as four screen sets, as well as different types of function keys.

*NOTE: The **Down** and **Up** hard keys are not listed in the screen sets. These function keys are the same for all components and issue Surf- and Surf+ commands, respectively.*

MANUALLY PROGRAMMING THE TS-1 (continued)

Starting the Utility Program

1. Touch ⏱ (SLEEP TIMER) once. The *Sleep Timer* screen will appear:



2. Touch and hold the *Metronome Icon* for at least 3 seconds. The *Manual Programming* screen will appear:

3. At this point the installer can choose from several program options, including: *Auto Configure*, *Edit Configuration*, *Send Configuration*, *Calibrate Screen*, and *Show Settings Option*. Each option will be described in its own section on the pages that follow.

Calibrating the TS-1 Screen

1. On the *Manual Programming* screen (see previous page, step 2), touch Calibrate Screen once. The *Screen Calibration* screen will appear:

2. Touch each of the targets as they appear. The screen will calibrate and the *Manual Programming* screen will appear again.
3. If finished with all manual programming, touch OK once to exit the program. Otherwise, continue with other program options.

Using Auto Configure

When a Niles Multi-Zone System is first activated, each connected TS-1 automatically configures itself to match the multi-zone controller. However, if a TS-1's display remains blank or (after editing a configuration) you want to reset a TS-1 to a basic system, then perform the following steps:

1. On the *Manual Programming* screen (see previous page, step 2), touch Auto Configure once. A warning dialog box will appear:

continued on next page...

MANUALLY PROGRAMMING THE TS-1

Using Auto Configure (continued)

2. Select the desired action as follows:
   - To continue with auto configuration, touch Yes once. The TS-1 will reconfigure itself and the *Manual Programming* screen will appear again.
   - To cancel auto configuration, touch No once. The action will be cancelled and the *Manual Programming* screen will appear again.
3. If finished with all manual programming, touch OK once to exit the program. Otherwise, continue with other program options.

Editing the TS-1 Configuration

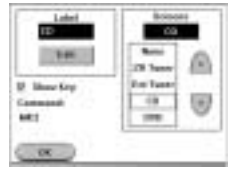
Included in the TS-1's built-in utility program is an *Edit Configuration* module. It allows the installer to modify and customize control screen templates containing source-component function keys for audio and video sources.

1. On the *Manual Programming* screen (see page 34, step 2), touch Edit Configuration once. The *Edit Configuration* screen will appear:

2. At this point, the installer can choose to configure *Master Keys* (see next page) or *Function Keys* (see page 38).

Configuring Master Keys

1. Touch any of the displayed *Master Keys* twice. If needed, touch More once to view the other set of *Master Keys*. The *Master Key Edit* screen will appear (as shown in the following example):



   - For reference, the *Master Key Edit* screen shows the command name (e.g., MK3) for the selected *Master Key*.
   - To show a selected *Master Key* during normal TS-1 operation, touch Show Key once. A check mark will appear in the check box.

     NOTE: For a ZR-4630 Multi-Zone Control System, only the first four Master Keys can be shown.
   - To hide a selected *Master Key* during normal TS-1 operation, touch Show Key once. The check mark will disappear from the check box.
   - To edit the label for the selected *Master Key*, touch Edit once. A keyboard will appear. Use a PDA stylus to type in a desired label. When finished, touch ENTER once to save your entry and return to the *Master Key Edit* screen. The highlighted *Label* box will display your entry.
   - To edit the type of control screens that will appear for the selected *Master Key*, touch ▲ or ▼ one or more times to scroll and locate a desired set of control screens. The highlighted *Screens* box will display your selection.
2. Touch OK once to save the settings. The *Edit Configuration* screen will appear again.
3. To save all Edit Configuration settings, touch Exit once. The *Manual Programming* screen will appear again.
4. If finished with all manual programming, touch OK once to exit the program. Otherwise, continue with other program options.

continued on next page...

MANUALLY PROGRAMMING THE TS-1

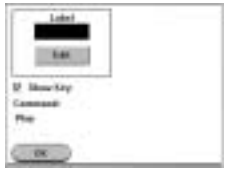
Editing the TS-1 Configuration (continued)

Configuring Function Keys

1. Touch a desired *Master Key* once (e.g., DVD). If needed, touch More once to view the other set of *Master Keys*. The first *Control Screen* for the selected component will appear (as shown in the following example):

NOTE: Certain screen sets contain Favorite Function Keys that can not be configured manually and must be programmed using a laptop PC and the TS-1 Programming Software. Favorite function keys are hidden by default.

2. Touch Prev or Next one or more times to display a control screen you want to edit. Touch a desired *Function Key* once (e.g., Play). The *Function Key* Edit screen will appear:



- For reference, the *Function Key Edit* screen shows the command name (e.g., Play) for the selected *Function Key*.
- To show a selected *Function Key* during normal TS-1 operation, touch Show Key once. A check mark will appear in the check box
- To hide a selected *Function Key* during normal TS-1 operation, touch Show Key once. The check mark will disappear from the check box

- To edit the label for the selected *Function Key*, touch Edit once. A keyboard will appear. Use a PDA stylus to type in a desired label. When finished, touch ENTER once to save your entry and return to the *Function Key Edit* screen. The highlighted *Label* box will display your entry.

3. Touch OK to save the settings. The *Edit Configuration* screen will appear again.
4. To save all Edit Configuration settings, touch Exit once. The *Manual Programming* screen will appear again.
5. If finished with all manual programming, touch OK once to exit the program. Otherwise, continue with other program options.
6. (Optional) For ZR receivers only, perform *Sending the Configuration to Other TS-1s* on the next page to send the new settings to other connected TS-1s.

Setting the Zone ON Key

(Zone On) can be programmed to select the last-selected *Master Key* or a pre-selected *Master Key* as follows:

1. On the *Manual Programming* screen (see page 34, step 2), touch Edit Configuration once. The *Edit Configuration* screen will appear:

2. Press (Zone On) once. The *Zone On Edit* screen will appear:

continued on next page...

MANUALLY PROGRAMMING THE TS-1

Setting the Zone ON Key (continued)

3. Touch Last Selected or a labeled *Master Key* once. The associated button will highlight.
4. Touch OK once to save the setting. The *Edit Configuration* screen will appear again.
5. Touch EXIT once to exit the *Edit Configuration* screen. The *Manual Programming* screen will appear again.
6. If finished with all manual programming, touch OK once to exit the program. Otherwise, continue with other program options.

Displaying Settings Option

To Show Settings Option:

1. On the *Manual Programming* screen (see page 34, step 2), touch Show Settings Option once. A check mark will appear in the check box.
2. When finished with manual programming, touch OK once to save the settings.
3. When the TS-1 *Touch Screen* returns to normal operation, (Settings Option) will appear on the *Navigation Keys*.

To Hide Settings Option:

1. On the *Manual Programming* screen (see page 34, step 2), touch Show Settings Option once. The check mark will disappear in the check box.
2. When finished with manual programming, touch OK once to save the setting.
3. When the TS-1 *Touch Screen* returns to normal operation, (Settings Option) will no longer appear on the *Navigation Keys* and the key will be blank.

Sending The Configuration to Other TS-1s (For ZR Receivers Only)

1. Using a DB9 to mini-plug serial cable and a male-to-male DB9 null-modem adapter, connect the PROGRAM jack on the newly-configured TS-1 to the ZR receiver's COMPUTER INTERFACE port, as shown in Figure 22 on the next page.

2. On the *Manual Programming* screen (see page 34, step 2), touch Send Configuration once.
3. The new configuration settings will be sent to other connected TS-1s. If an error occurs, a prompt will appear, so repeat step 2 again.
4. If finished with all manual programming, touch OK once to exit the program. Otherwise, continue with other program options.

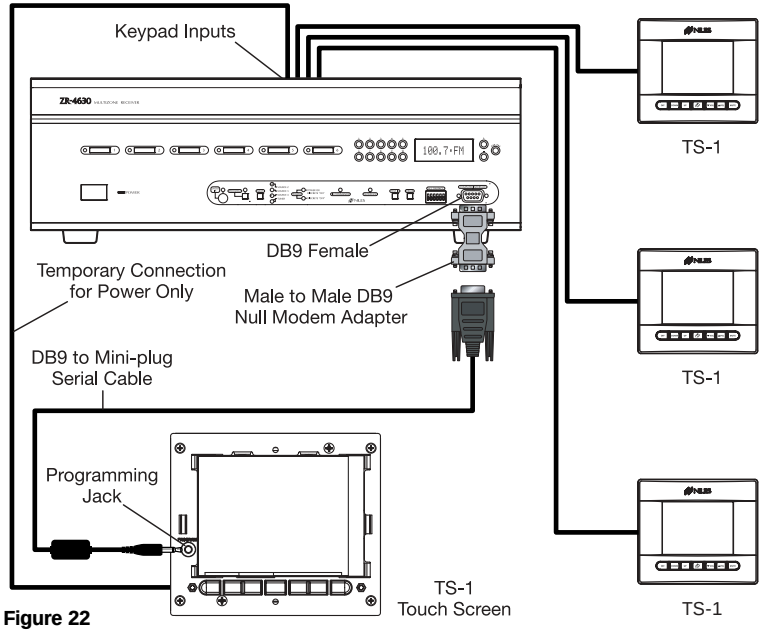


Figure 22

How to connect a newly-configured TS-1 to a ZR receiver to send data to other connected TS-1s.

MANUALLY PROGRAMMING THE TS-1 (continued)

About Programming with a PC

The TS-1 can also be programmed using a laptop PC and our TS-1 Programming Software. For more information consult with your Niles dealer.

SPECIFICATIONS

Control

LCD Touch Screen:	3.8" Gray Scale (320 x 240 pixels)
Touch-Screen Viewing Angle:	Optimal 42° (see Figure 12 on page 23)
External Hard Keys:	Seven Backlit Pushbuttons
IR Sensor:	Operates with Niles R-4/R-8 Remote Controls

Connections

System:	RJ-45 for CAT-5 Cable to Niles Multi-Zone System
IR Sensor:	RJ-45 for Three- and Four-Wire Connection to Niles IR Sensor
Serial:	3.5 mm mini-plug
Power Consumption:	140 mA @ 16V DC

Dimensions

H x W x D:	5-3/16" x 4-1/2" x 2-1/2"
Depth Behind Wall:	1-1/16" (based on mounting into 1/2" drywall)
Retrofit Wall Cutout, H x W:	3-7/8" x 4-3/4"
Shipping weight:	1 lb

Warranty

Two-year limited

FCC INSTRUCTIONS TO THE USER

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This equipment has been verified to comply with the limits for a class B computing device, pursuant to FCC Rules. In order to maintain compliance with FCC regulations, shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio and TV reception. The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.